CA-IR-4

Ref: HECO T-2, Page 12 and 13.

Mr. Wong indicates that the 1992 East Oahu 138 kV Requirement Study recommended that "Plan C" be implemented, which included an all-underground 138 kV transmission line between the Archer and Pukele Substations via the Kewalo and Kamoku Substations. Further, the use of Waahila Ridge for a portion of the line to be constructed overhead was a noted variation of Plan C. Why didn't HECO pursue the originally recommended all underground solution just as actively as the variation utilizing Waahila Ridge? Explain.

HECO Response:

Both the all-underground solution and the variation to the solution, which included Waahila Ridge, of "Plan C" were considered equal in technical effectiveness to address the transmission problems noted in the *1992 East Oahu 138kV Requirements Study*. The study recommended that studies be initiated to determine the feasibility of utilizing Waahila Ridge to install a portion of the proposed 138kV transmission line overhead between the Kamoku and Pukele Substations. Furthermore, as noted in Mr. Wong's testimony, HECO T-2, page 15, "HECO determined that there were no permitting or technical constraints precluding the consideration of Waahila Ridge for an overhead transmission line." It was also noted that a CDUP would need to be granted and an EIS would also be required to use the route along Waahila Ridge. Therefore, given that the variation of "Plan C" utilizing existing 46kV right-of-ways on Waahila Ridge could be more economical than the all-underground solution, HECO decided to pursue the variation of "Plan C" utilizing Waahila Ridge.

After the Board of Land and Natural Resources denied the permit for Waahila Ridge in 2002, HECO identified new alternatives and revisited past alternatives, which included an all-underground 138kV transmission line solution. However, as noted in Mr. Joaquin's testimony, HECO T-1, on page 17, ". . . the 138kV underground alternative is also the most

expensive and time consuming to implement [as compared to the 46kV alternative], leaving critical areas of Oahu at risk of blackouts for a much longer period of time." Furthermore, as noted in Mr. Alm's testimony, HECO T-12, page 6, the opposition to a 138kV line was strenuous and there was opposition to more infrastructure in Palolo -- however, reliability and cost are important, particularly to the business community. Given these factors (and the other factors considered in evaluating the alternatives), it was decided that the 46kV Phased Project be pursued vigorously instead of an all-underground 138kV solution. See also response to CA-IR-1.b.